



DQA: \_\_\_\_\_ Date: \_\_\_\_\_

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

**FAULT CATEGORY**

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge	<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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# Work Order ID 123724

Monday, August 18, 2014 2:38:02 PM

**\*123724\***

Page 2

Item ID: D3622-1 Accept **\*N900040100\*** Setup Start **\*NS1\***  
Revision ID: Stop **\*NS2\***  
Item Name: Ball Stud  
Start Date: 8/18/14 Start Qty: 20.00 **\*20\*** Cust Item ID:  
Required Date: 8/18/14 Req'd Qty: 20.00 **\*20\*** Customer:  
Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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130	Identify as per dwg & Stock Location: <b>5T052</b>	0.00							
<b>*130*</b>									
Packaging	Memo	0.00				<b>20X</b>	<b>DAS 28 9-89</b>		<b>AUG 29 2014</b>
Packaging									

140	QC21- Final Inspection - Work Order Release	0.00							
<b>*140*</b>									
QC	Memo	0.00							

Quality Control

**MLJ 1409-02**

**MLJ 1408-29**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



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### FAULT CATEGORY

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# Picklist Print

Monday, August 18, 2014 2:38:02 PM

Page 1

Work Order ID: 123724

**\*123724\***

Parent Item: D3622-1

**\*D3622-1\***

Parent Item Name: Ball Stud

Start Date: 8/18/14

Required Date: 8/18/14

Start Qty: 20.00

Required Qty: 20.00

Comments: IPP Rev:A New Issue 07-04-24 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M303H0.500		Purchased		No		100	f	26.5660	0.108	3			

**\*M303H0.500\***

303 HEX BAR .500

**\*\***

Location

Loc Qty

Loc Code

MAT018

26.566

m127464

2.73

m128496

3.575

m128882

20.261

1  
2 Jfc 2014-08-25

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



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<b>DART AEROSPACE LTD</b>		<b>Work Order:</b> 123724
<b>Description:</b> Ball Stud		<b>Part Number:</b> D3622-1
<b>Inspection Dwg:</b> D3622	<b>Rev:</b> C	<b>Page 1 of 1</b>

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

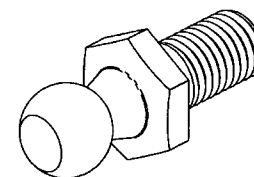
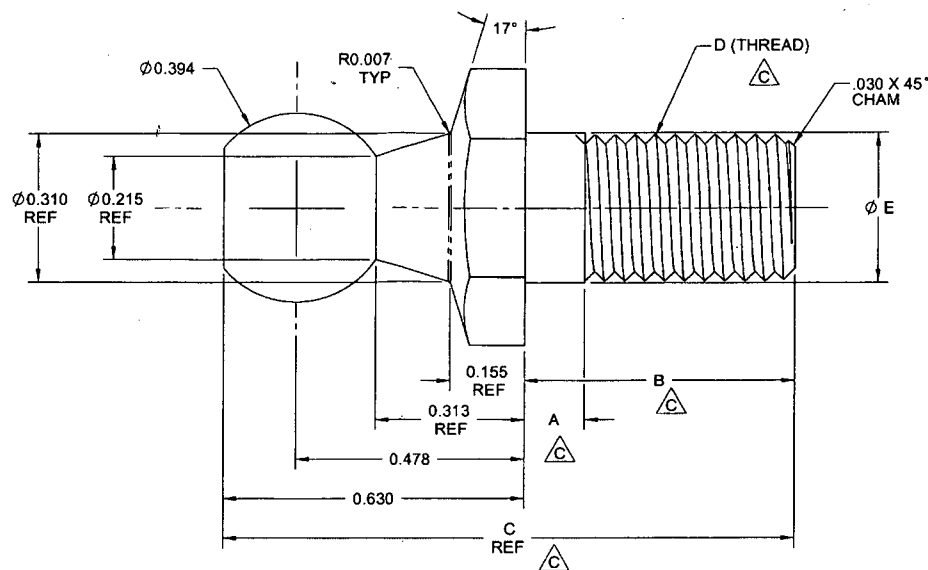
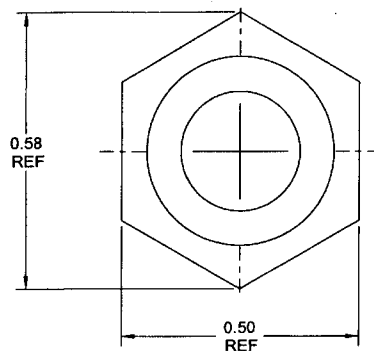
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.58	+/-0.030	0.5615	✓			
0.50	+/-0.030	0.496	✓			
Ø0.394	+/-0.010	0.3956	✓			
Ø0.310	+/-0.010	0.310	✓			
Ø0.215	+/-0.010	0.223	✓			
0.155	+/-0.010	0.155	✓			
0.313	+/-0.010	0.313	✓			
0.478	+/-0.010	0.478	✓			
0.630	+/-0.010	0.630	✓			
0.125	+/-0.010	0.128	✓			
0.563	+/-0.010	0.565	✓			
1.19	+/-0.030	1.191	✓			
0.3125-24UNF-3A	<del>+0.000/-0.002</del>					
M.O.W.	Min = 0.3336 Max = 0.3363	0.3355	✓			
Thread Ø	min 0.3058 max 0.3125	0.3108	✓			
pitch Ø	min 0.2827 max 0.2854	0.284	✓			

DAS

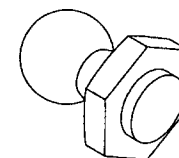
40  
9-89

<b>Measured by:</b> JFC	<b>Audited by:</b> DAS	<b>Preliminary Approval:</b>
<b>Date:</b> 2014-08-25	<b>Date:</b> 14/08/28	<b>Date:</b>

Rev	Date	Change	Revised by	Approved
A	08.04.15	New Issue	KJ/DD	
B	10.02.02	Dwg Rev updated	KJ	
C	11.02.18	Dimensions updated per Dwg Rev C	KJ	



**D3622-1 BALL STUD  
SHOWN**



**D3622-11 BALL STUD  
SHOWN**

PART NUMBER	DIM A	DIM B	DIM C	WEIGHT (LBS)	THREAD D	Ø E	
						MIN	MAX
D3622-1	0.125	0.563	1.19	0.03	0.3125-24UNF-3A	0.3053	0.3125
D3622-3	0.125	0.563	1.19	0.03	0.1875-32UNF-3A	0.1840	0.1900
D3622-5	0.090	0.900	1.53	0.04	0.3125-24UNF-3A	0.3053	0.3125
D3622-7	0.060	0.330	0.96	0.03	0.3125-24UNF-3A	0.3053	0.3125
D3622-9	0.090	1.160	1.79	0.04	0.3125-24UNF-3A	0.3053	0.3125
D3622-11	0.060	N/A	0.69	0.02	NOT THREADED	0.270	0.300
D3622-13	0.090	0.680	1.31	0.03	0.3125-24UNF-3A	0.3053	0.3125

**D3622-X BALL STUD**

**NOTES:**

- 1) MATERIAL: AISI 303 HEX BAR  
REF DART SPEC M303H0.500
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENT P/N D3622-X & B/N PER QSI 044
- 7) WEIGHT: SEE D3622-X TABLE

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 123 724

C	SHEET 1: ADD -5, -7, -9, -11 & -13. ADD D3622-X TABLE. SHEET 2 DELETED	JPH	10.07.20
B	ADD -3 (SHEET 2)	HS	08.09.18
A	NEW ISSUE	MB	07.04.13
REV.	DESCRIPTION	BY	DATE
DESIGN	JPH	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	JPH		
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D3622	SHEET 1 OF 1
APPROVED		TITLE	SCALE
DE APPR.		BALL STUD	NTS
DATE	10.07.20	<small>COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD</small>	